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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/372,343 | 08/11/1999 | KAZUAKI SAIKI | 001.0080 | 1292 |

25944 7590 05/21/2003

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| EXAMINER |
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LEE, HWA S

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| ART UNIT | PAPER NUMBER |
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2877

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant N .

09/372,343

Applicant(s)

SAIKI ET AL.

Examiner

Andrew H. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 5-8, 16-18, and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokunaga (Patent Abstracts of Japan 08-293459).

Tokunaga shows an interferometrically controlled stage comprising:

a movable stage (22, 24) which has a first portion (24) and a second portion (22);

a first position detector (32) which optically detects the position of said first portion in a predetermined measurement direction;

a second position detector (32) which optically detects the position of said second portion in said predetermined measurement direction;

As for claims 2, please see stage controller (44);

As for claims 6, 18, and 21-24 Tokunaga's stage controller drives the stage according to the position detectors (32) for scanning exposure with a projection system (PL).

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4. Claims 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokunaga.

Tokunaga shows

a mask stage (18, 22, 24);

a substrate stage (20);

a position detecting device having a moving mirror (38), and a fixed mirror fixed to stage (22);

a correction device; and

a control device.

As for claim 12, please see (PL).

As for claim 13, please see columns 7 and 8.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yao (6,057,921).

Yao shows a exposure stage system comprising:

a movable stage (10) which has a first portion (M3) and a second portion (M2);

a first position detector (24) which optically detects the position of said first portion in a predetermined measurement direction;

a second position detector (24) which optically detects the position of said second portion in said predetermined measurement direction;

Although Yao does not expressly show that the first and second portions are integrally formed, Yao shows a prior art where the two portions are integrally formed and at the time of the invention, one of ordinary skill in the art would have been motivated to use an integrally formed mirror in order to avoid having to align two separate mirrors or fabricate one single piece mirror rather than two mirrors. Furthermore, it has been held that making a formerly device of various elements in an integral structure involves only routine skill in the art.

7. Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokunaga as applied to claims 1 and 17 above, and further in view of Yao.

Tokunaga does not expressly show that the drive mechanism is a linear motor. Yao teaches that linear motors are used to drive the stage. At the time of the invention, one of ordinary skill in the art would have used linear motors in order to move and control the stage with ease of linear signals.

8. Claims 9, 10, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokunaga as applied to claims 5 and 21 above, and further in view of Official Notice that drive mechanisms which drives the object along an axis direction of the projection system (are/is) old and well known in the art. See *In Re Malcolm* 1942 C.D.589; 543 O.G.440. At the time of the invention, one of ordinary skill in the art would have used a vertical drive system in order to focus the object in the projection system.

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Papers related to this application may be submitted to Technology Center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the PTO Fax Center located in CP4-4C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Center number is (703)308-7722 or 308-7724.

If the Applicant wishes to send a Fax dealing with either a Proposed Amendment or for discussion for a phone interview then the fax should:

a) Contain either the statement "DRAFT" or "PROPOSED AMENDMENT" on the Fax Cover Sheet; and

b) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew H. Lee whose telephone number is (703) 305-0538.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC receptionist whose telephone number is (703) 308-0956.



Andrew Lee
Patent Examiner
Art Unit 2877
May 12, 2003



Frank Font
Supervisory Patent Examiner
Art Unit 2977